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Liefbroer, Aart C.; Rijken, Arieke J.

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The Association Between Christianity and Marriage Attitudes in Europe. Does Religious Context Matter?

Aart C. Liefbroer ^{1,2,3,*} and Arieke J. Rijken³

¹Netherlands Interdisciplinary Demographic Institute (NIDI-KNAW), The Hague, The Netherlands,

²Department of Epidemiology, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands and ³Department of Sociology, Vrije Universiteit, Amsterdam, The Netherlands

*Corresponding author. Email: liefbroer@nidi.nl

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Abstract

Christian religiosity is linked to traditional marriage attitudes. This article jointly studies individual, contextual and cross-level effects of Christian religiosity on marriage attitudes. In doing so, this article sheds light on the issue of how a key institution like religion influences societal values. Is it only via compositional effects, with larger numbers of religious people leading to more positive marriage attitudes in a society? Or does religion also have ‘emergent properties’ that have an additional effect on marriage attitudes on top of the compositional effect? Finally, we examine whether the strength of the link between individual religiousness and marriage attitudes depends on the religious context. We use data from the ESS 2006 and use the regional level as our preferred contextual level. Our results show that Christian religiosity has individual, contextual and cross-level effects. It is level of religiosity rather than type of denomination that matters. In more religious regions, both the religious and the non-religious hold more traditional marriage attitudes. Finally, although the more religious hold more positive marriage attitudes in both low and high religious contexts, the difference between both groups is much smaller in low than in high religious contexts. This suggests that an adaptation mechanism among religious people in secularized contexts is at work.

Introduction

It is well-established that Christians (and most adherents of other religions) generally hold more traditional marriage attitudes than the non-religious, with the former being much more likely than the latter to object to behaviours such as unmarried cohabitation and divorce, that are seen as undermining the centrality of marriage (Thornton, 1985; Pearce and Thornton, 2007; Adamczyk, 2013; Wilkins-LaFlamme, 2016). This general statement, however, does not take into account the

wide variety of social contexts in which religious differences express themselves. In the past decades, processes like secularization and the fall of Communism have shaken up the religious map of Europe. Nowadays, large variability exists across countries and across regions within countries in the proportion of people that belong to a Christian denomination. Moreover, among Christians, large variation exists in the extent to which they identify with and engage in religion and religious activity. This raises a number of questions on the

relationship between Christianity and marriage attitudes. A first question is which aspect of Christianity matters. Is it whether people identify themselves as Christians at all, is it the denomination they adhere to, or is it the extent to which people actively identify with and engage in religion and religious activity? Most studies that examine the relationship between religiosity and attitudes suggest that both active engagement and denomination matter, but their relative importance varies across studies, with active engagement generally (Moore and Vanneman, 2003; Pearce and Thornton, 2007; Finke and Adamczyk, 2008; Halman and Van Ingen, 2015), but not always (Adamczyk, 2008), being more important than denomination.

A second question is whether religion only is important for its adherents or whether it also influences the broader community. Christianity is a major societal institution, and it could be that just living in a context that is highly religious may influence marriage attitudes, even for those who do not or only slightly identify themselves as religious. Evidence is not unequivocal though, with some studies suggesting that people hold more traditional attitudes in more religious contexts (Thornton, 1985; Moore and Vanneman, 2003; Finke and Adamczyk, 2008; Adamczyk and Hayes, 2012; Wilkins-LaFlamme, 2016), whereas others did not find such a contextual effect (Jaspers, Lubbers and De Graaf, 2007; Adamczyk, 2008). If a contextual effect would exist, the question is how large it is in comparison to the effect of indicators of individual religiosity.

A third question is whether the strength of the relationship between individual religiosity and marriage attitudes depends on the religious context. People's marriage attitudes may be influenced by the combination of their individual religiosity and the religious context. For instance, if Christians live in a relatively secular context they may adapt their family attitudes and become more similar to the non-religious than if they live in a very Christian context (Finke and Adamczyk, 2008). However, the opposite could also be true, with Christians being more prone to stress their religious identity—and concomitant attitudes—in a secular context than they would had they lived in a more religious context (Jaspers, Lubbers and De Graaf, 2007).

The aim of this article is to disentangle these different effects of religion on marriage attitudes. First, we make a distinction between three different aspects of individual religiosity; whether people adhere to Christianity at all, which denomination they adhere to, and the extent to which individuals are religiously involved. Second, we examine the importance of religious context. Are

people in more religious contexts more likely to embrace traditional family attitudes than people in less religious contexts? And does the denomination matter at the contextual level? Whereas many studies focus on the country level (Ruiter and De Graaf, 2006; Finke and Adamczyk, 2008; Adamczyk and Pitt, 2009; Huijts and Kraaykamp, 2011), we mainly focus on the regional level (Adamczyk, 2008; Lim and MacGregor, 2012; Wilkins-LaFlamme, 2016), as quite some heterogeneity in level of religiosity exists within countries. In addition, in some countries the dominant denomination varies by region. Finally, we examine whether the strength of the link between individual religiousness and marriage attitudes depends on the religious context. Together, this allows us to jointly study *individual, contextual, and cross-level effects* of different aspects of religiosity on marriage values. Disentangling these three different types of effects is important from a sociological perspective, as it sheds light on the issue of how a key institution like religion influences societal values regarding marriage. Is it only via compositional effects, with larger numbers of religious people leading to more positive marriage attitudes in a society? Or does religion also have 'emergent properties', with it having an additional effect on marriage attitudes on top of the compositional effect?

To answer our central questions, we use data from the third wave of the ESS (2006) for 25 European countries, in which questions on people's attitudes towards divorce, non-marital cohabitation, and childbearing in non-marital cohabitation were posed. We focus on the three main strands of Christianity¹ in Europe: Roman Catholicism, Protestantism, and Orthodoxy.²

Theory and Hypotheses

Which Aspects of Christianity Matter for Individual Marriage Attitudes?

Marriage is a living arrangement that is highly valued in Christian teaching (Yarhouse and Nowacki, 2007). It is viewed as a sacrament in most strands of Christianity, like Roman Catholicism, Orthodoxy, and in many Protestant denominations, like Lutheranism. This focus on marriage has led most Christian denominations to be sceptical about or outright oppose family decisions and living arrangements that conflict with marriage, such as divorce and unmarried cohabitation. Given that all mainstream Christian denominations emphasize the importance of marriage, we expect that marriage attitudes are generally quite traditional among people who adhere to the Christian faith. Those who are not religious are expected to be less susceptible to Christian views on

marriage and thus to value marriage less strongly. In line with this reasoning, several studies have shown that the non-religious hold less traditional marriage attitudes than adherents of most Christian denominational strands (Halman and Van Ingen, 2015; Wilkins-LaFlamme, 2016). Thus, our first hypothesis is that:

H1: Members of Christian denominations hold more traditional marriage attitudes than the non-religious.

Although all denominations emphasize the value of marriage, this emphasis might not be equally strong across denominations. Protestantism historically stresses individual responsibility rather than hierarchical subordination, and this should result in more leeway for individual decision-making within Protestantism than in Roman Catholicism (Cohen and Hill, 2007). Furthermore, most European mainstream Protestant denominations have become quite reluctant to formulate strict prescriptions concerning personal behaviour (Dobbelaere, 1981). Marriage attitudes are generally quite strict in most strands of Orthodoxy (Stan, 2010). In general, it leads us to expect that Protestants will value marriage less strongly than members of the other large strands of Christianity. Therefore, our second hypothesis is that:

H2: Members of Protestant denominations hold less traditional marriage attitudes than members of Roman Catholicism and Orthodox denominations.

In individualized societies, membership in religious denominations may have lost some of its importance, as members vary widely in the extent that they participate in religious practices and identify with religious denominations. From this perspective, it can be argued that it is not only (or maybe not so much) whether individuals are members of religious denominations, but how strong their religious involvement is that matters. Those who are not involved will less likely base their opinions about marriage on the views of their denomination, whereas this is much more likely among those who are strongly involved in religious denominations. Religious communities have a socializing function: internalization of religious guidelines on family matters is likely to be stimulated by going to church and being part of a religious community. In addition, those who are more religious probably also are more susceptible to normative pressure to follow these guidelines. Numerous studies have shown the importance of religious involvement as a predictor of family related attitudes (Jaspers, Lubbers and De Graaf, 2007; Finke and Adamczyk, 2008; Adamczyk and Pitt, 2009; Adamczyk, 2013; Halman

and Van Ingen, 2015; Wilkins-LaFlamme, 2016). This leads to our third hypothesis:

H3: The more religious people are, the more traditional marriage attitudes they will hold.

The question is whether this effect will dominate the effect of denomination, that is, whether it will make potential differences in marriage attitudes between denominations disappear and perhaps even differences between those who do consider themselves as Christians and those who do not consider themselves as members of any religious denomination.

Does the Religious Context Matter for Individual Marriage Attitudes?

The discussion in the previous section suggests that religion influences the societal attitude towards marriage via the individual attitudes and behaviours of its members (or its more committed members). The higher the number of religious individuals in a societal context, the more traditional attitudes towards marriage in that context will be. However, this compositional effect need not be the only way in which religion exerts an influence on marriage attitudes in society. In most Western societies, Christian denominations have developed into powerful institutions that are able to shape both the cultural climate within a society and exert an influence on major rules and regulations concerning issues that they deem important. Although the influence of religious institutions in these societies has been waning during the last half-century (Gorski and Altinordu, 2008), denominations still exert or try to exert considerable influence on institutional arrangements. Examples of Christian denominations' institutional involvement within the realm of family values are the opposition to a relaxation of divorce laws, the institutionalization of same-sex marriage, and the granting of equal rights to cohabiting couples. But apart from this institutional involvement, the pervasive, long-standing influence of Christian denominations on the cultural climate within a society may affect the marriage attitudes of those who are not very committed and even of those who do not identify with a religious denomination at all.

If the strength of a religion to influence the cultural climate and institutional arrangements in a societal context lies in its institutional power, one would expect that the marriage attitudes would depend primarily on the proportion of people who are a member of religious denominations. At the same time, we expect this effect to be weaker for Protestantism than for the other denominations, as we expect Protestants to be less

traditional than members of the other two large denominations. In line with this idea, we formulate a fourth hypothesis:

H4: The higher the proportion of members of a religious denomination in a region, the more likely it is that people hold traditional marriage attitudes. This effect is weaker for Protestantism than for Roman Catholicism and Orthodoxy.

If the strength of religion primarily lies in the conviction of committed believers to spread their attitudes to others, marriage attitudes in a societal context would mainly depend on the level of religiosity of individual believers. This idea is reflected in our fifth hypothesis:

H5: The higher the general level of religiosity in a region, the more likely it is that people hold traditional marriage attitudes.

Two studies that examined contextual effects of religion on family related attitudes have focused on the proportion of members of religious denominations, and thus investigated whether strength in numbers matter (Moore and Vanneman, 2003; Wilkins-LaFlamme, 2016). In both instances, the hypothesis was confirmed. One study examined whether the level of religiosity in a societal context is related to attitudes—and thus in a sense whether the strength of convictions matter (Finke and Adamczyk, 2008). Again, the findings were in line with expectations. However, no study as yet examined whether both contextual effects are operative at the same time or whether one is dominating the other.

Does the Link Between Individual Religiosity and Marriage Attitudes Depend on the Level of Religiosity in the Societal Context?

Most modern societies are undergoing a process of secularization (Gorski and Altinordu, 2008). The most common view on secularization is that this implies that the proportion of the population that agrees with a religious worldview is diminishing. However, apart from this process of ‘external’ secularization, religious communities may also undergo a process of ‘internal’ secularization. By internal secularization, we mean a process in which the ‘translation’ of the religious doctrines to the personal lives of the religious is increasingly left to religious individuals themselves (Dobbelaere, 1981). Instead of the religious community deciding on what the religious doctrines imply, individuals themselves are to decide on this. It can be expected that such a process of ‘internal’ secularization is more likely in regions where the process

of external secularization has also advanced, than in regions where external secularization is not very widespread. This could imply that religious individuals in highly secularized regions pay less attention to denominational teachings on marriage than religious individuals in regions where most people are still religious. In addition, in secularized contexts the religious may experience normative pressure from the non-religious majority to ‘modernize’ their views on issues like unmarried cohabitation and divorce and to align these views with those of the non-religious majority. This idea of religious individuals adapting their attitudes to that of the non-religious majority leads us to formulate the following hypothesis:

H6A: The less religious a region is, the weaker the positive effect of individual religion on traditional marriage attitudes.

This hypothesis is in line with the idea behind the hypothesis of moral communities (Stark, 1996). Stark argued that religion produces conformity to its norms only when it is sustained through interaction and accepted by the majority as a valid basis for action. Stark used this reasoning to explain why in studies from the secularized Pacific region of the United States no correlation was found between individual religious involvement and youth delinquency, whereas studies from more religious parts of the United States showed the expected negative correlation.

Alternatively, one could argue that being a minority of believers in a non-religious environment could lead to a re-affirmation of differences in attitudes between the religious and the non-religious, also referred to as religious polarization (Wilkins-LaFlamme, 2016). First, in a highly secularized context, those who remain religious may become a rather selective group of ‘die-hard’ believers who stress traditional values. Second, the experience of being a minority whose beliefs are under siege may make believers wanting to show that they differ from their secular environment, and this may lead to a re-affirmation of traditional teachings. This reasoning would lead us to expect that the differences in the centrality of marriage between Christians and the nonreligious are stronger in secularized contexts than in non-secularized ones. Thus, we formulate the contrasting hypothesis:

H6B: The less religious a region is, the stronger the positive effect of individual religion on marriage attitudes.

We will investigate the cross-level interaction between individual and regional religion for denomination (membership) as well as level of religiosity.

Studies provide mixed support for both of the hypotheses formulated above. In line with H6A, [Finke and Adamczyk \(2008\)](#) find that the positive relationship between the importance that individuals attach to religion and conservative sexual morality is weaker in less religious countries. However, the relationship between religious attendance and sexual morality did not depend on how religious a country was. Several other studies have reported results that seem to favour H6B. [Moore and Vanneman \(2003\)](#) find that differences in gender attitudes between fundamentalists and non-fundamentalists are larger in US states with relatively low numbers of fundamentalists than in US states with relatively many fundamentalists. [Wilkins-LaFlamme \(2016\)](#) reports that the differences in family values between committed members of denominations and non-members are larger in regions with more people who are not affiliated to a religious denomination. [Jaspers, Lubbers and De Graaf \(2007\)](#) found that the effect of being religious on attitudes towards homosexuality and euthanasia in the Netherlands increased over time between 1975 and the late 90s, hence when the Netherlands became more secularized. Two other studies do not test the cross-level interaction directly, but report that the effect of own religious importance on attitudes towards homosexuality, abortion, and divorce is stronger in countries with strong self-expression attitudes ([Adamczyk and Pitt, 2009](#); [Adamczyk, 2013](#)), which also suggests the relevance of the re-affirmation mechanism.

The studies mentioned above differ in how they define the religious context. Some studies measure the proportion of people that are members of religious denominations ([Moore and Vanneman, 2003](#); [Wilkins-LaFlamme, 2016](#)), whereas others emphasize the general level of importance that is attached to religion ([Finke and Adamczyk, 2008](#); [Adamczyk and Pitt, 2009](#); [Adamczyk, 2013](#)). This suggests that it is not a priori clear which aspect(s) of the religious context matter for these interaction effects. Therefore, we will examine cross-level effects for denomination as well as for level of religiosity.

Method

Data and Sample

To test our hypotheses, we used data from the third wave of the European Social Survey (2006–2007). This wave is the only ESS wave to date that contains information on attitudes concerning behaviours that could be viewed as challenging the centrality of marriage, like

divorce, unmarried cohabitation, and having children outside marriage. Data were collected among 47,099 respondents in 25 countries, using face-to-face interviews. The sampling strategy varied between countries, depending on their access to sampling sources, but were all based on the same basic principles of strict probability and representativeness. The ESS aims to be representative of residential populations aged 15 years and older, regardless of nationality or citizenship. Response rates per country varied between 46.0 per cent and 73.2 per cent. The (unweighted) average response rate was 63.5 per cent.

Given our focus on differences between Christians belonging to one of the three major Christian churches (Catholicism, Protestantism, and Orthodoxy) and people who do not consider themselves as belonging to any religion, we excluded respondents identifying with smaller Christian denominations (2.0 per cent) and non-Christian religions (1.8 per cent). Furthermore, we excluded 4.6 per cent of our sample due to missing values on one or more of our variables. This left us with 43,242 respondents nested in 226 regions, which in turn are nested in 25 countries (see [Table 2](#) for the countries included).

Contextual Level: Country or Region?

A critical issue in testing our contextual hypotheses is what constitutes the best level of aggregation. Many studies focus on the country as the contextual level of interest. However, it is not clear that this is optimal. Both the level of religiosity and the membership of Christian denominations show regional variation within countries (see below). Thus, a focus on regions within countries seems warranted. There is a practical reason to focus on the regional level as well; parameter estimates and their standard errors may be imprecise and biased if the number of level-2 units included in a multi-level analysis is limited ([Bryan and Jenkins, 2016](#)). The number of countries in the dataset is only 25, whereas we distinguished 226 regions. Therefore, we decided to focus on the regional level, but controlling for the fact that regions are nested within countries. Furthermore, as explained in the Analytical strategy section below, we ran additional sensitivity analyses in which effects of denomination and level of religiosity were estimated both at the regional and country level.

Variables

Individual-level variables

Three items measured attitudes towards marriage. Respondents were asked to indicate on a five-point

Likert-scale running from ‘strongly disapprove’ to ‘strongly approve’ to what extent they approved or disapproved if a woman/man (1) lives with a partner without being married to him/her, (2) has a child with a partner she/he lives with but is not married to, and (3) gets divorced while she/he has children aged under 12. Respondents were randomly assigned to a set of questions about the behaviour of women or to a set of questions about the behaviour of men.³ The reliability of the resulting scale was good, in particular given the small number of items (Cronbach’s $\alpha = 0.70$). We used the mean score on the three items as our indicator of marriage attitudes; the higher the score, the stronger respondents favoured marriage.

Religious membership was measured with the question: ‘Do you consider yourself as belonging to any particular religion?’ (1 = yes, 0 = no). Those who answered ‘yes’ were asked to which religion they belonged. This variable indicates self-identified membership or belonging, rather than official membership. We distinguished between Catholics, Protestants (including Anglicans), and Orthodox (Greek as well as Russian Orthodox). Respondents who belonged to smaller Christian denominations or to other religions were excluded.

Three items were used to measure level of religiosity. The first item read ‘Regardless of whether you belong to a particular religion, how religious would you say you are?’, with response options running from ‘not at all religious’ (0) to ‘very religious’ (10). The second item was ‘Apart from special occasions such as weddings and funerals, about how often do you attend religious services nowadays?’ The wording of the third item was ‘Apart from when you are at religious services, how often, if at all, do you pray?’ The last two items both had scores ranging from ‘every day’ (1) to ‘never’ (7). A factor analysis (principal component analysis) showed one clear factor underlying these three items. Country-specific analyses showed that—depending on the country—a one-factor model explained between 61 and 79 per cent of the variance in these items. In the pooled dataset this factor explained 76 per cent of the variance. The standardized factor score was used to indicate respondents’ level of religiosity. The higher the score, the stronger religiously involved respondents were. If one item was missing, it was substituted by the average value of respondents with the same score on one of the other two items (in 1.9 per cent of the cases such a substitution was made, mostly because of a missing on frequency of prayer).

We included a small set of variables that could both be related to our key independent and dependent variables, and thus lead to spurious correlations between

religiousness and marriage attitudes. The following control variables were included; gender (0 = male, 1 = female), age (in years), level of educational attainment, migrant status (0 = born in the country of residence, 1 = born elsewhere), and level of urbanization. Educational attainment was measured using the ISCED system, with five categories, running from ‘less than secondary education’ (ISCED 0–1) to ‘tertiary education completed’ (ISCED 5–6). ‘Upper secondary education completed’ (ISCED 3) was chosen as the reference category. Level of urbanization was measured by five categories as well, ranging from ‘a farm or home in the country side’ to ‘a big city’ (reference category). **Table 1** provides descriptive information on individual variables.

Regional level-variables

Our regional-level variables were aggregated from the ESS data. The ESS contains a regional classification variable that is based on nomenclature of territorial units for statistics (NUTS). The number of regions distinguished per country depended on the size of the country and the country-specific sample size. For some countries, NUTS 1 was used, whereas for other countries NUTS 2 or 3 was used. We pooled data from the first three waves of the ESS, in order to have more reliable estimates at the regional level.⁴ In some countries, we merged regions with few respondents, based on the criterion that the pooled dataset of ESS waves 1, 2, and 3 should contain at least about 100 respondents per region. After this reclassification, the number of regions per country ranged from 3 in Belgium and Ireland to 22 in Ukraine.

We constructed three variables indicating the proportion of the total population in a region that belonged to the Catholic, Protestant, or Orthodox Church, respectively. These proportions were based on the total samples per country, thus including the respondents identifying with ‘other’ Christian and non-Christian religions. In addition, the regional level of religiosity was measured as the regional mean of the individual-level religiosity scale. This variable was standardized in order to facilitate the comparison between the individual-level religiosity variable and the regional-level religiosity level variable, which is a standardized factor score.

Analytical Strategy

Three-level regression-models were estimated, with individuals, regions, and countries as the three levels. Contextual religion variables were only included at the regional level, but random slopes were specified at both

Table 1. Individual-level descriptives ($N = 43,242$)

	Per cent	M	SD	Min	Max
Marriage attitude		2.83	0.91	1	5
Denomination					
No denomination	39.78				
Catholic	30.84				
Protestant	15.31				
Eastern Orthodox	14.07				
Religiosity		0.00	1.00	-1.43	2.33
Gender					
Male	45.30				
Female	54.70				
Age		47.62	18.57	14.17	101.33
Level of education					
Less than lower secondary (ISCED 0-1)	15.73				
Lower secondary (ISCED 2)	21.29				
Upper secondary (ISCED 3)	30.69				
Post-secondary non-tertiary (ISCED 4)	10.37				
Tertiary (ISCED 5-6)	21.91				
Migrant status					
Native	93.10				
Migrant	6.90				
Level of urbanization					
Farm home or home in the countryside	6.02				
Country village	31.78				
Town or small city	30.43				
Suburbs or outskirts of big city	10.98				
Big city	20.79				

the regional level and the country level. We only estimated variances of the random effects (standard deviations reported), no covariances between the random effects, as this would make the estimation of the random part of the model too complicated.^{5,6} All analyses were conducted using the `xtmixed` command with restricted maximum likelihood estimation in Stata. Information on the order of models is provided in the Results section. In addition, we estimated a more complex model that included contextual and cross-level effects at both the regional and the country level. We report on the results of this model at the end of the results section.

Results

Table 2 provides individual-level descriptive information on marriage attitudes and religion by country. Countries are ordered from most to least traditional marriage attitudes (from highest to lowest mean score). Roughly, people in Eastern Europe hold the most traditional marriage attitudes (Slovenia being an exception), and people in the Nordic countries hold the least

traditional attitudes, together with the Dutch and the Belgians. Other Western-European countries score in between the Eastern European and the Nordic countries. The mean level of religiosity is highest in Cyprus and lowest in Sweden, but the country pattern is not as clear as for marriage attitudes. The percentage of people who do not consider themselves as belonging to any religious denomination ranges from less than 2 per cent in Cyprus to 73 per cent in Estonia. Countries with the highest percentage of Catholics are Poland (91 per cent), Portugal (85 per cent), and Ireland (77 per cent), Denmark and Finland have the highest percentage of Protestants (both 61 per cent), and the highest percentages of Orthodox are found in Cyprus (98 per cent) and Romania (82 per cent). Switzerland, Germany, and Hungary (and to a lesser extent: the Netherlands and Great Britain) have substantial proportions of both Catholics and Protestants. Latvia is the only country with roughly equal (but rather low) percentages of all three major Christian denominations.

Since we mainly focus on the role of the regional religious context, we also present a map showing regional

Table 2. Individual-level descriptives on marriage attitudes and religion by country

Country	Marriage attitude M (SD)	Religiosity (factorscore) M (SD)	Per cent Catholics	Per cent Protestants	Per cent Eastern Orthodox	Per cent No Member	N regions	N resp.
Ukraine	3.57 (0.92)	0.25 (0.93)	8.11	2.99	62.22	26.67	22	1,837
Romania	3.46 (0.77)	0.80 (0.75)	5.72	4.98	81.68	7.62	8	2,009
Russia	3.34 (0.78)	-0.35 (0.84)	0.28	0.19	47.10	52.43	10	2,136
Slovakia	3.32 (0.79)	0.39 (1.09)	65.49	8.98	0.59	24.93	8	1,536
Estonia	3.28 (0.60)	-0.51 (0.76)	0.96	7.76	18.34	72.94	5	1,456
Bulgaria	3.14 (1.14)	-0.24 (0.78)	0.72	0.54	70.71	28.03	6	1,113
Ireland	3.11 (0.73)	0.61 (0.96)	76.86	2.65	0.00	20.49	3	1,469
Cyprus	3.08 (0.88)	0.82 (0.71)	0.85	0.00	97.57	1.59	5	946
Poland	3.06 (0.88)	0.92 (0.79)	91.37	0.30	0.30	8.04	16	1,680
Latvia	2.98 (0.75)	-0.31 (0.86)	16.06	11.44	10.86	61.64	6	1,731
Great Britain	2.97 (0.65)	-0.42 (0.94)	10.95	26.88	0.15	62.02	12	1,964
Germany	2.97 (0.59)	-0.36 (0.95)	24.52	31.16	0.22	44.10	14	2,696
Hungary	2.93 (0.69)	-0.14 (1.00)	41.94	18.38	0.00	39.67	7	1,409
Switzerland	2.87 (0.70)	0.16 (0.93)	33.65	33.59	0.94	31.83	6	1,709
Austria	2.78 (0.82)	0.07 (0.95)	67.30	3.70	0.56	28.45	9	2,162
Portugal	2.75 (0.72)	0.42 (0.94)	85.37	0.76	0.00	13.86	5	2,092
Slovenia	2.70 (0.79)	-0.04 (0.97)	47.42	0.86	1.08	50.65	12	1,394
Spain	2.65 (0.89)	-0.08 (1.03)	67.65	0.28	0.78	31.30	15	1,802
France	2.65 (0.89)	-0.50 (0.87)	44.41	1.28	0.21	54.09	9	1,871
Sweden	2.39 (0.77)	-0.54 (0.78)	1.37	27.33	0.49	70.81	8	1,826
Belgium	2.38 (0.86)	-0.25 (0.91)	40.56	0.52	0.29	58.63	3	1,726
Finland	2.35 (0.87)	-0.06 (0.44)	0.00	60.63	1.18	38.19	4	1,867
The Netherlands	2.27 (0.85)	-0.25 (0.99)	19.14	16.19	0.23	64.43	12	1,729
Norway	1.99 (0.83)	-0.44 (0.82)	1.44	50.60	0.24	47.71	7	1,662
Denmark	1.73 (0.71)	-0.38 (0.76)	0.85	60.85	0.14	38.17	14	1,420

variation in average religiosity scores (Figure 1). Scores are highest in Poland, Romania, Ireland and parts of Ukraine and Portugal, and lowest in Eastern Germany, Western France, and parts of Sweden, Estonia, and Latvia. In most countries, some regional variation in religiosity scores is apparent. This variation is strongest in Spain, Bulgaria, Ukraine, Slovakia, Hungary, and Germany.⁷

Next, we examine the relationship between marriage attitudes and religion in a series of multi-level models. Table 3 presents three models that investigate the effects of our three individual-level indicators for religion on marriage attitudes. Model 1 shows that people who consider themselves a member of the three major Christian denominations score 0.217 higher on the five-point scale of marriage attitudes than people who do not belong to any religious denomination. This finding supports H1, which stated that members of a Christian denomination hold more traditional marriage attitudes than people who do not identify with any religion. Furthermore, Model 1 shows that the effects of the control variables are in line with expectations: Men, older individuals, less educated

individuals, first-generation immigrants, and individuals living in the countryside hold more traditional marriage attitudes than women, more educated individuals, those who were born in the country in which they reside, and those living in big cities. With regard to education, we see that there is no difference in marriage attitudes between those with post-secondary non-tertiary education (ISCED level 4) and the reference group, upper secondary education (ISCED level 3), but apart from that the pattern is monotonous. The effect of urbanization is not completely monotonous; those living in suburbs or outskirts of big cities hold more traditional marriage attitudes than those living in towns or small cities.

In Model 2, we distinguish between the three major religious denominations in Europe. Catholics, Protestants, and Orthodox all score higher than those who do not identify with any religious denomination, which means that members of all three denominations hold more traditional marriage attitudes.⁸ The coefficients for Catholics and Protestants are very close to each other (with the latter being slightly higher), hence

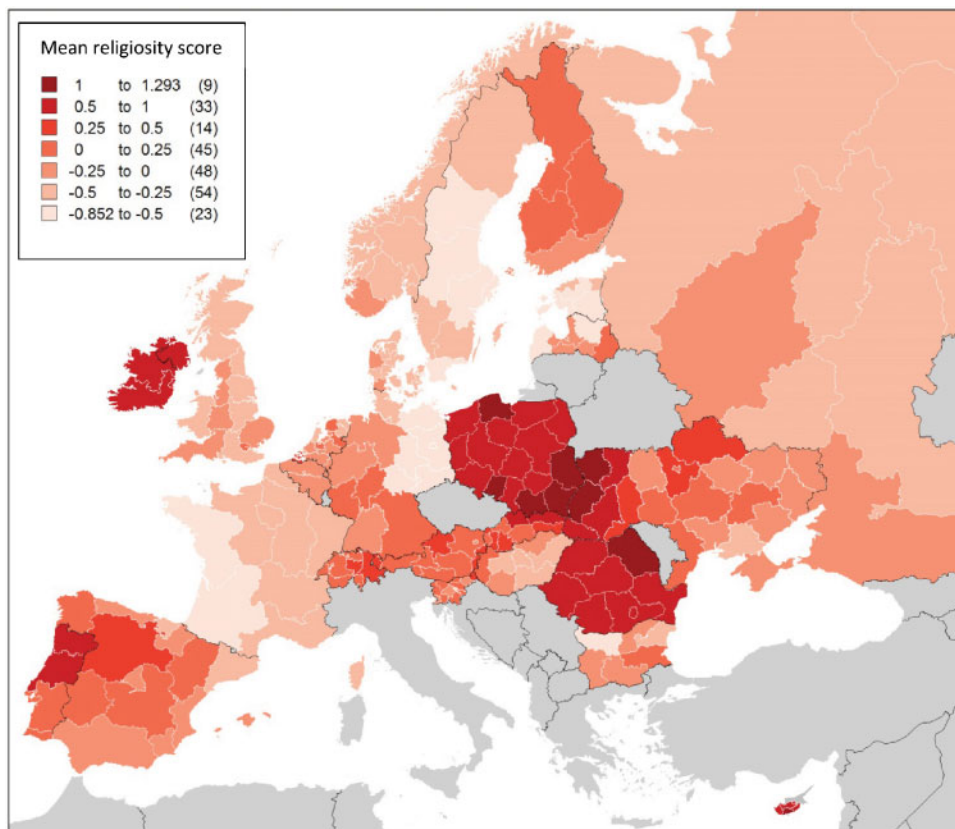


Figure 1. Average religiosity score by European region

Source: Own calculations on data from ESS waves 1–3.

we did not find evidence for H2, which stated that Protestants are less marriage oriented than Catholics. The coefficient for the Orthodox is the highest of the three denominations, but an additional analysis with the Orthodox as the reference category showed that their marriage attitudes do not differ significantly from those of Catholics and Protestants.

In Model 3,⁹ we added the level of religiosity. The effects indicate that the more religiously involved people are, the more traditional their marriage attitudes (an increase of one SD on the religiosity scale results in a 0.199 increase on the five-point scale that measures marriage attitudes), hence H3 is confirmed. What is more, it turns out that only the level of religiosity matters, whereas denomination does not: When level of religiosity is taken into account, none of the denominations differ in marriage attitudes from those who do not identify with a religious denomination. To be precise, the effect of Protestantism is borderline significant ($P = 0.057$), but it has decreased from 0.276 in Model 2 to 0.066 in

Model 3. Hence the differences in marriage attitudes between people who consider themselves as member of a Christian church and those who do not identify with any religion should be attributed to their level of religiosity and not to specific characteristics of the denominations.

In the next set of Models (Model 4 and 5, Table 4), we retained denomination and level of religiosity at the individual level, and added indicators of religion at the regional level. In Model 4, the proportions of the regional population that consider themselves as a member of each of the three major Christian churches were added. The results show that on top of the effect of individual level of religiosity, there are small regional effects of the proportion of Catholics and Orthodox: the higher these proportions relative to the proportions of people who do not identify with any religion, the more traditional people's marriage attitudes are. If the proportion of Catholics increases with 10 per cent at the cost of the proportion of non-members, the average score on marriage attitudes increases with almost 0.018 and if the

Table 3. Multilevel regression estimates of marriages attitudes: effects of individual-level variables ($N = 43,242$ individuals, 226 regions, 25 countries).

	Model 1		Model 2		Model 3	
<i>Fixed-effect parameters</i>	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>
Constant	2.144	0.093***	2.138	0.091***	2.376	0.084***
<i>Individual-level religion variables</i>						
Member of religious denomination	0.217	0.026***				
Denomination						
No denomination			<i>Ref</i>		<i>Ref</i>	
Catholic			0.256	0.028***	0.015	0.013
Protestant			0.276	0.054***	0.066	0.034
Orthodox			0.316	0.062***	0.048	0.027
Religiosity					0.199	0.017***
<i>Individual-level control variables</i>						
Female	-0.042	0.007***	-0.041	0.007***	-0.102	0.007***
Age	0.011	0.000***	0.011	0.000***	0.009	0.000***
Level of education						
Less than lower secondary (ISCED 0-1)	0.209	0.013***	0.209	0.013***	0.185	0.012***
Lower secondary (ISCED 2)	0.086	0.011***	0.087	0.010***	0.080	0.010***
Upper secondary (ISCED 3)	<i>Ref</i>		<i>Ref</i>		<i>Ref</i>	
Post-secondary non-tertiary (ISCED 4)	-0.013	0.013	-0.014	0.013	-0.018	0.013
Tertiary (ISCED 5-6)	-0.092	0.010***	-0.091	0.010***	-0.097	0.010***
Migrant	0.105	0.014***	0.095	0.015***	0.085	0.014***
Level of urbanization						
Farm home or home in the countryside	0.065	0.018***	0.064	0.018***	0.049	0.018**
Country village	0.070	0.011***	0.067	0.011***	0.047	0.011***
Town or small city	0.023	0.011*	0.021	0.011	0.014	0.011
Suburbs or outskirts of big city	0.041	0.014**	0.039	0.014**	0.030	0.014*
Big city	<i>Ref</i>		<i>Ref</i>		<i>Ref</i>	
<i>Random-effects country level</i>						
sd (Constant)	0.459	0.067	0.445	0.066	0.410	0.060
sd (Member of religious denomination)	0.114	0.021				
sd (Catholic)			0.104	0.028		
sd (Protestant)			0.228	0.048	0.130	0.034
sd (Orthodox)			0.202	0.064	0.000	0.001
sd (Religiosity)					0.079	0.013
<i>Random-effects regional level</i>						
sd (Constant)	0.099	0.008	0.100	0.008	0.090	0.008
sd (Member of religious denomination)	0.103	0.011				
sd (Catholic)			0.073	0.017	0.041	0.019
sd (Protestant)			0.091	0.020	0.048	0.026
sd (Orthodox)			0.165	0.024	0.149	0.022
sd (Religiosity)					0.055	0.008
sd (residual)	0.736	0.003	0.734	0.003	0.718	0.002

* $P < 0.05$.** $P < 0.01$.*** $P < 0.001$.

proportion of Orthodox increases with 10 per cent at the cost of the proportion of non-members, the average score on marriage attitudes increases with about 0.039 (on a five-point scale).¹⁰ Hence, H4 is partly confirmed; there are positive effects of the proportion of Catholics

and Orthodox on traditional marriage attitudes, however these effects are quite small. There is no significant effect of the proportion of Protestants.

In Model 5, the mean level of religiosity of the population at the regional level was added. It has a positive

Table 4. Multilevel regression estimates of marriages attitudes: effects of individual-level and regional-level variables ($N = 43,242$ individuals, 226 regions, 25 countries)

	Model 4		Model 5	
<i>Fixed-effect parameters</i>	<i>b</i>	<i>se</i>	<i>b</i>	<i>se</i>
Constant	2.368	0.081***	2.366	0.080***
<i>Individual-level religion variables</i>				
Denomination				
No denomination	<i>Ref</i>		<i>Ref</i>	
Catholic	0.013	0.013	0.013	0.013
Protestant	0.064	0.034	0.063	0.034
Orthodox	0.042	0.026	0.042	0.026
Religiosity	0.197	0.017***	0.197	0.017***
<i>Regional-level religion variables</i>				
Proportion Catholics	0.178	0.084*	−0.104	0.142
Proportion Protestants	0.234	0.137	0.012	0.162
Proportion Orthodox	0.387	0.138**	0.170	0.163
Mean religiosity			0.069	0.028*
<i>Individual-level control variables</i>				
Female	−0.102	0.007***	−0.102	0.007***
Age	0.009	0.000***	0.009	0.000***
Level of education				
Less than lower secondary (ISCED 0-1)	0.185	0.012***	0.185	0.012***
Lower secondary (ISCED 2)	0.080	0.010***	0.080	0.010***
Upper secondary (ISCED 3)	<i>Ref</i>		<i>Ref</i>	
Post-secondary non-tertiary (ISCED 4)	−0.018	0.013	−0.018	0.013
Tertiary (ISCED 5-6)	−0.097	0.010***	−0.097	0.010***
Migrant	0.085	0.014***	0.085	0.014***
Level of urbanization				
Farm home or home in the countryside	0.047	0.018**	0.049	0.018**
Country village	0.046	0.011***	0.046	0.011***
Town or small city	0.013	0.011	0.014	0.011
Suburbs or outskirts of big city	0.029	0.014*	0.030	0.014*
Big city	<i>Ref</i>		<i>Ref</i>	
<i>Random-effects country level</i>				
sd (Constant)	0.397	0.061	0.390	0.060
sd (Protestant)	0.127	0.034	0.126	0.034
sd (Orthodox)	0.000	0.000	0.000	0.000
sd (Religiosity)	0.079	0.013	0.079	0.013
<i>Random-effects regional level</i>				
sd (Constant)	0.089	0.008	0.086	0.008
sd (Catholic)	0.040	0.019	0.041	0.019
sd (Protestant)	0.044	0.027	0.046	0.026
sd (Orthodox)	0.144	0.022	0.141	0.022
sd (Religiosity)	0.055	0.007	0.054	0.007
sd (residual)	0.72	0.002	0.719	0.002

* $P < 0.05$.** $P < 0.01$.*** $P < 0.001$.

effect on marriage attitudes: the higher the population's mean level of religiosity, the more traditional people's marriage attitudes are. An increase of one SD in the mean level of religiosity, leads to an increase of 0.069 on

the five-point scale that measures marriage attitudes. This shows that people's marriage attitudes are affected by the mean level of religiosity in their region, on top of their own level of religiosity. Hence, H5 is confirmed.

The regional effect is about one third of the effect size of individual-level religiosity ($b=0.069$ vs. $b=0.196$). Moreover, the effects of the regional denomination variables become weaker and statistically non-significant when regional religiosity is included. Hence, at the regional level we see the same as at the individual level: level of religiosity is the most important indicator of religion for explaining marriage attitudes. In addition, we can conclude that in the process of secularization, the decrease in level of religiosity has a stronger influence on marriage attitudes than the decrease in the percentage of church members.

The next step is to investigate whether the effects of the different individual indicators for religion depend on the religious context at the regional level. Although we saw earlier that the effects of individual denomination and the percentage of members of each denomination in the region's population disappeared when taking the level of individual and regional religiosity into account, it may still be the case that the effect of individual denomination depends on the extent to which one's own denomination is dominant in one's region. This is tested in Model 6, presented in Table 5. The results indicate that there is only an interaction between being Orthodox and the proportion of Orthodox in the region: the higher the proportion of Orthodox in a region, the weaker the positive effect of being Orthodox, or in other words: the lower the proportion of Orthodox in a region, the stronger the positive effect of being Orthodox. This supports the idea of a reformation mechanism (H6b) for the Orthodox: the more selective their group is (i.e. the lower the proportion of Orthodox adherents in their region), the more they stress traditional marriage attitudes.

In Model 7, we added the interaction between individual level of religiosity and mean level of regional religiosity. This interaction has a positive effect, implying that the positive effect of individual level of religiosity is stronger in regions where the mean level of religiosity is higher. Or formulated the other way around: in more secularized regions, the effect of individual religiosity is weaker, confirming H6a. The effect is illustrated in Figure 2, where we plot marriage attitudes against individual level of religiosity for a person living in region with a mean level of religiosity that is one SD above average and for a person living a region with a mean regional level religiosity that is one SD below average. The figure shows not only that in the more secular region, the effect of individual religion is weaker (i.e. the regression line is less steep), but also that the regional context matters little for the marriage attitudes of people with a very low level of individual religiosity (-2 SD)

whereas for people with a very high level of individual religiosity ($+2$ SD) the religiosity of the regional context clearly does matter. Hence, this result supports the idea of an internal secularization process: in regions where external secularization has progressed further, religious individuals do not follow the teachings of the Church on marriage as strictly as in regions where external secularization is less widespread. In Model 7, the effect of the interaction between individual Orthodox denomination and the regional percentage of Orthodox that was observed in Model 6 remains intact. Although there seems to be a reformation mechanism among Orthodox adherents in regions with a low percentage of Orthodox, we do not find evidence for such a reformation mechanism for level of religiosity among Christians in general, but quite the opposite. In an additional model (Supplementary Table A1) we included interactions between all denominations at the individual level and all denominations at the regional level. In this model, the negative interaction between individual Orthodox membership and regional proportion of Orthodox disappears, but positive interaction effects between individual Orthodox membership and the regional proportions of Catholics and Protestants are found; the Orthodox hold more traditional attitudes if they live in areas with higher proportions of Catholics or Protestants. Hence, the reformation process among Orthodox that our results seem to indicate, occurs in Catholic and Protestant regions rather than in more secular regions.

In the models discussed so far, effects of macro-level variables and cross-level interactions were studied at the regional level rather than at the country level. In an additional analysis (Supplementary Table A2), we included country-level variables and cross-level interactions at both the regional and the country level. No cross-level interactions between individual variables and country-level ones were statistically significant. The interaction between individual and regional-level religiosity remained statistically significant, suggesting that the regional level is an important level to study spatial variation in the effects of religiosity.¹¹

Conclusion and Discussion

This article studies the multifaceted relationship between Christianity and marriage attitudes. First, it examines which aspect of religion (being a member of any Christian denomination, being a member of a particular denomination, or the level of religiosity) is most strongly related to marriage attitudes. This is usually labelled the 'individual-level effect' of religion. Next, it

Table 5. Multilevel regression estimates of marriages attitudes: effects of individual-level variables, regional-level variables and interactions ($N = 43,242$ individuals, 226 regions, 25 countries)

	Model 6		Model 7	
<i>Fixed-effect parameters</i>	<i>b</i>	<i>se</i>	<i>b</i>	<i>Se</i>
Constant	2.369	0.079***	2.367	0.078***
<i>Individual-level religion variables</i>				
Denomination				
No denomination	<i>Ref</i>		<i>Ref</i>	
Catholic	0.021	0.016	0.024	0.016
Protestant	0.062	0.036	0.064	0.035
Orthodox	0.130	0.045**	0.133	0.045**
Religiosity	0.196	0.017***	0.196	0.016***
<i>Regional-level religion variables</i>				
Proportion Catholics	-0.096	0.143	-0.080	0.143
Proportion Protestants	0.002	0.166	0.022	0.167
Proportion Orthodox	0.237	0.166	0.277	0.167
Mean religiosity	0.069	0.028*	0.064	0.028*
<i>Cross-level interactions</i>				
Individual Catholic X regional prop. Catholics	-0.039	0.053	-0.051	0.051
Individual Protestant X regional prop. Protestants	0.026	0.126	0.016	0.125
Individual Orthodox X regional prop. Orthodox	-0.227	0.109*	-0.233	0.109*
Individual Religiosity X regional mean religiosity			0.027	0.010**
<i>Individual-level control variables</i>				
Female	-0.101	0.007***	-0.102	0.007***
Age	0.009	0.000***	0.009	0.000***
Level of education				
Less than lower secondary (ISCED 0-1)	0.184	0.012***	0.184	0.012***
Lower secondary (ISCED 2)	0.080	0.010***	0.080	0.010***
Upper secondary (ISCED 3)	<i>Ref</i>		<i>Ref</i>	
Post-secondary non-tertiary (ISCED 4)	-0.019	0.013	-0.018	0.013
Tertiary (ISCED 5-6)	-0.098	0.010***	-0.097	0.010***
Migrant	0.080	0.014***	0.081	0.014***
Level of urbanization				
Farm home or home in the countryside	0.049	0.018**	0.049	0.018**
Country village	0.047	0.011***	0.046	0.011***
Town or small city	0.014	0.011	0.014	0.011
Suburbs or outskirts of big city	0.030	0.014*	0.030	0.014*
Big city	<i>Ref</i>		<i>Ref</i>	
<i>Random-effects country level</i>				
sd (Constant)	0.383	0.059	0.381	0.059
sd (Protestant)	0.129	0.036	0.127	0.035
sd (Orthodox)	0.080	0.060	0.079	0.060
sd (Religiosity)	0.079	0.013	0.075	0.013
<i>Random-effects regional level</i>				
sd (Constant)	0.086	0.008	0.086	0.008
sd (Catholic)	0.043	0.019	0.044	0.019
sd (Protestant)	0.046	0.026	0.046	0.027
sd (Orthodox)	0.139	0.022	0.139	0.022
sd (Religiosity)	0.054	0.007	0.054	0.007
sd (residual)	0.718	0.002	0.718	0.002

* $P < 0.05$.** $P < 0.01$.*** $P < 0.001$.

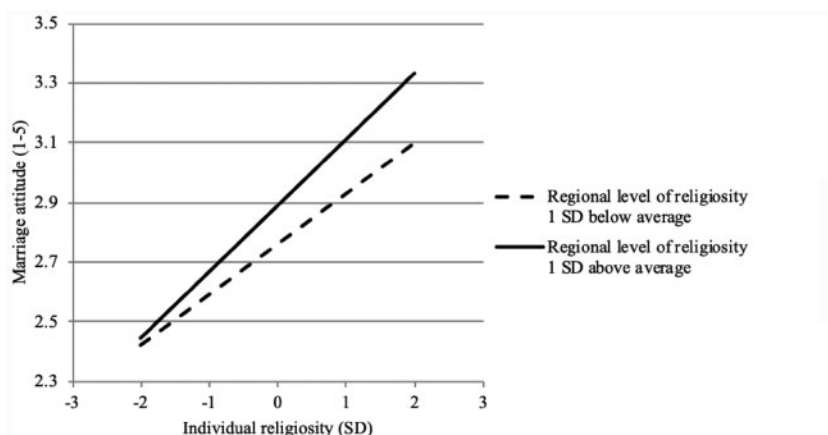


Figure 2. Marriage attitudes by individual level of religiosity and regional level of religiosity

examines whether the religious macro-context influences the marriage attitudes in a society, even if individual-level effects are considered. This is usually labelled the ‘contextual-level’ effect. Finally, it examines whether the religious macro-context differentially affects the religious and the non-religious. This is usually labelled the ‘cross-level’ effect. Distinguishing these three types of effects is important, as it shows in more detail how a key institution like religion influences societal values regarding marriage. Data from the third wave of the ESS, conducted in 2006, were used to test a series of hypotheses about the relationship between Christianity and marriage attitudes and how this relationship differs across regions.

Our results show that Christians in Europe hold more traditional marriage attitudes than those who are not religious. However, it turns out that mainly the level of religiosity of individuals matters (H3 is confirmed). Once we take the level of individual religiosity into account, no differences in marriage attitudes between Catholics, Orthodox, and Protestants were observed, nor differences between any of these denominations and those who are religiously unaffiliated. Thus, it is the strength of an individual’s engagement with religion (as indicated by their religious self-identification, and their level of public—via attendance of church services—and private—via prayer—commitment) that is associated with their marriage attitudes, not their denominational membership. It suggests that it is not the type of specific denominational instruction that religious people receive that is shaping their attitudes towards marriage. Rather, it seems the more religious people are, the more serious they take notions about the sacramental or covenantal nature of marriage that are central to most religious teaching.

There is one caveat to this general conclusion. Our study focused on the non-affiliated and the members of the three main Christian denominational strands in Europe. Given our comparative focus, members of small Christian groupings outside the mainstream and members of non-Christian religions, like Muslims and Jews, could not be delineated, as their numbers were too small in many countries, let alone in many regions. Furthermore, within the three mainstream denominations, no further subdivisions were possible. It could be that being a church member has an additional effect on top of level of religiosity if specific subgroups of denominations could have been distinguished. For instance, it could be that members of more strict churches within Protestantism hold more traditional family related attitudes than the majority of Protestant church members.

Our findings also show that the link between Christianity and marriage attitudes does not only exist at the individual level. Religious context matters as well. Again, it is the mean level of religiosity in a region that matters, not the size of particular denominations. This confirms hypothesis 5, and does not confirm hypothesis 4. Two important conclusions can be drawn from these findings. First, people in contexts that are very religious hold more traditional marriage attitudes than people in less religious contexts, irrespective of whether people themselves are religious. It suggests that religion has a pervasive and often long-lasting impact on cultural contexts. In more religious contexts, the religious and the non-religious are more reluctant to deviate from central moral prescriptions enshrined in religious traditions. Second, the fact that the mean level of religiosity rather than the size of particular denominations is more important suggests, again, that particularities of specific

denominations do not seem to matter so much. As at the individual level, it is the level of religiosity within a region that matters, not whether one is Catholic, Protestant, or Orthodox.

Our final set of hypotheses concerned whether the strength of the link between individual religiosity and marriage attitudes depends on the religious regional context. One line of reasoning suggests that religious people are more likely to adapt their marriage attitudes to those of the non-religious if they live in a very secular region, that is, the effect of individual religiosity is smaller in secular regions than in religious regions (H6A), whereas the other line of reasoning suggests that the former rather want to distance themselves from the non-religious in a secular context, that is, the effect of individual religiosity is larger in secular regions than in religious regions (H6B). The results clearly favour the first of these two hypotheses. Although the more religious hold more positive marriage attitudes in both low and high religious contexts, the difference between both groups is much smaller in low than in high religious contexts. This suggests that the adaptation mechanism that we hypothesized is at work. At the same time, selective migration may play a role as well. Not all people with the same level of religiosity will adhere equally strongly to strict moral teachings. It could be that religious people with relatively tolerant moral beliefs are likely to move from regions that are strongly religious to regions that are less religious, whereas religious people with strict moral beliefs are more likely to move in the opposite direction (or stay in their religious region). This alternative explanation cannot be tested with the ESS data. Longitudinal information on migration and religiosity would be needed to do so.

In addition, one denominational cross-level effect was found. Members of the Orthodox churches were more likely to hold traditional marriage attitudes in regions with relatively large representations of Catholics and/or Protestants. One possible explanation for this finding is that Orthodoxy may experience a stronger challenge to formulate clear moral guidelines in contexts in which it constitutes a minority denomination and experiences the competition of other denominations. This situation is more common for Catholicism and Protestantism, and may thus pose less of a challenge for these strands of Christianity.

Some of the limitations of this study have already been touched upon in the conclusions above: First, we only focused on the three major strands of Christianity in Europe. No attention was paid to Islam. Although a religion of growing importance in Europe, the proportion of Muslims is still low in many regions and their

representation in surveys like the ESS is (too) weak to include them. It would be interesting to see whether the extent to which they adhere to marriage attitudes also depends on the religious context, and whether it matters for them whether that context is secularized (few religious people at all) or dominated by Christians (many religious people, but from another faith). Second, although we disentangled effects of membership, denomination and level of religiosity, we could not investigate which mechanisms are behind the influence of religiosity at the regional level. Does religion influence even those who are not religious through its influence on institutions or through culture? Our finding that the contextual effect of religiosity operated at the regional level rather than at the national level suggests that culture may be the more important mechanism as institutional power will probably vary little within countries. Third, in our theoretical interpretation of the results, we assume that religious affiliation influences marriage attitudes. However, it could also be that people's attitudes towards marriage influences whether they remain church members and ultimately their level of religiosity. This makes the causal interpretation of the relationship between individual religiosity and marriage attitudes ambiguous.

To these limitations we add a final one. To investigate the effect of religion at a contextual level, we focused on the regional level. We believe that this is an improvement in comparison to studies that focus on the country level, because there is within-country variation in membership, denomination and level of religiosity. Moreover, we did not find interaction effects between individual- and country-level indicators of religion. Two remarks on this finding are in order. First, our regional analysis is mainly based on NUTS regions. However, to derive reliable estimates of regional levels of religiosity, we sometimes had to combine regions with few respondents. As a result, regions with low population density are somewhat underrepresented in our overall sample. Second, the regional level is not necessarily the best level of aggregation when investigating influences of the religious context. One could argue that influences of religion operate at even lower contextual levels such as that of the local community. In addition, one could argue that the 'borders' of religious areas such as bible belts do not necessarily follow the borders of NUTS regions. Thus, there is a clear potential for further research on the most 'appropriate' level of aggregation at which religious context effects are at work.

Notes

- 1 The increase of Islam in many European societies would have made it very interesting to include

- Islam in this study as well. However, the number of respondents identifying themselves as Muslims in the 2006 ESS is relatively small; their numbers are too few in many regions.
- 2 We use the generic term Orthodoxy to include different, often country-based variants, like Russian Orthodox, Greek Orthodox, Romanian Orthodox, etc. The same variety exists in Protestantism that includes a.o. Lutheran, Calvinist and Anglican strands.
 - 3 This experimental design did not affect our results. Although respondents who got questions about men reported a higher level of disapproval (i.e. more traditional marriage attitudes) than respondents who got questions about women (Rijken and Liefbroer, 2016), we did not include this gender wording variable in our models, as it was unrelated to our independent variables (because of randomization).
 - 4 Not all countries participated in all 3 waves: 17 countries participated in 3 waves, three countries participated in wave 2 and 3, and the five remaining countries only participated in wave 3.
 - 5 This implies that all covariances between the random effects are estimated independently (or in other words: restricted to be zero). This is the default option for the variance-covariance structure of the random effects for mixed models in Stata.
 - 6 As is standard in statistical packages for multi-level analysis, no statistical significance of the random effects is reported as no agreed upon test for single random effects parameters is available. The usual z -tests do not work as variances cannot be negative and thus the 0-hypothesis is on the boundary of the parameter space.
 - 7 Maps with the regional distribution of denominational membership can be found in the online [Supplementary Materials](#).
 - 8 Each of these three coefficients is higher than the coefficient of 'member of religious denomination' in Model 1 ($b = 0.217$). One would expect this coefficient to be a weighted mean of the three coefficients of the religious denominations in Model 2, because the three denominations are grouped together in the variable 'religious identification'. The difference in the effect sizes is due to the different specification of the random slopes in Model 1 and 2: in Model 1 we only included a random slope for being a member of a religious denomination, whereas in Model 2 we included random slopes for each of the three denominations.
 - 9 In this and subsequent models we did not include the random slope for 'Catholic' at the country level, because when it was included (i.e. when we specified a model with random slopes for all religion variables), standard errors of the random parameter estimates could not be calculated. However, the parameter estimates in that model (without SE's) are almost virtually identical to the parameter estimates in the model presented (and there was no variation for Catholic at the country level).
 - 10 Note that Catholic, Protestant and Eastern Orthodox are proportional variables that sum to 100 per cent together with the non-member category. Therefore, one cannot interpret the effect of any of these variables as the effect of an increase in one denomination at the cost of the other denominations, because that would violate the *ceteris paribus* assumption. Therefore, we have to interpret the effects as the effect of an increase of the proportion of one denomination at the cost of the non-member group. See: <http://stats.stackexchange.com/questions/183601/interpreting-proportions-that-sum-to-one-as-independent-variables-in-linear-regr>
 - 11 Additionally, we ran our final model (Model 7 in [Table 5](#)) separately for the three separate attitude items that constitute our marriage attitudes scale. Results were generally in line with those for the overall scale. These models are presented in [Supplementary Tables A3–A5](#).

Supplementary Data

[Supplementary data](#) are available at *ESR* online.

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Aart C. Liefbroer is research theme leader at The Netherlands Interdisciplinary Demographic Institute (NIDI), Professor of Demography of the Life Course at the University Medical Center Groningen, and Professor of Demography of Young Adults and Intergenerational Transmission at the Department of Sociology at Vrije Universiteit Amsterdam. His main research interests are determinants and consequences of demographic events, such as leaving home, unmarried cohabitation, marriage, parenthood, and divorce.

Arieke J. Rijken is an Assistant Professor at the Department of Sociology of Vrije Universiteit Amsterdam. Currently, she is involved in a cross-national research project on several forms political participation. She has published articles in the fields of family sociology, demography, criminology and political science.